



PATENT

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF APPEALS AND INTERFERENCES**

Application No. : 10/614,759
Confirmation No. : 6109
Applicant : Joseph W. Schaffer et al.
Filed : July 8, 2003
Title : Flowmeter
TC/A.U. : 2855
Examiner : J. V. Thompson
Docket No. : SCHA3004/FJD
Customer No. : 23364

BRIEF ON APPEAL

Commissioner for Patents
P.O. Box 1450
Alexandria, VA. 22202-3514

Sir:

INTRODUCTORY COMMENTS

Pursuant to the provisions of 37 CFR 41.37, submitted herewith is Applicant/Appellant's Brief on Appeal along with the required fee. The period for response has been extended to expire on July 13, 2006 by filing herewith a Petition for a Three Month Extension of Time and payment of the required fee.

Any additional fees necessary for this appeal may be charged to the undersigned's Deposit Account No. 02-0200.

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REAL PARTY IN INTEREST

(37 CFR 41.37(c)(1)(i))

The real party in interest is Applicant/Appellant's assignee Endress + Hauser Flowtec AG. The assignment was recorded on October 16, 2003 at Reel 014619 and Frame 0443.

RELATED APPEALS AND INTERFERENCES

(37 CFR 41.37(c)(1)(ii))

There are no related appeals or interferences with respect to the invention defined in this application.

STATUS OF CLAIMS

(37 CFR 41.37(c)(1)(iii))

Claims 1 - 8 are pending in this application.

Claims 1 - 4, 6 and 8 have been finally rejected.

Claims 5 and 7 are withdrawn as non-elected.

STATUS OF AMENDMENTS

(37 CFR 41.37(c)(1)(iv))

A Notice of Appeal was filed on February 13, 2006 after issuance of the Office Action of September 12, 2005.

An Amendment under 37 CFR 1.116 is being submitted herewith to place this application in condition for allowance or at least materially reduce the issues on appeal.

SUMMARY OF CLAIMED SUBJECT MATTER

(37 CFR 41.37 (c)(1)(v))

(References are to paragraph numbers of the specification)

The invention in this appeal relates to flowmeters (paragraph [001]). The flowmeter is suitable for replacement of differential pressure flowmeters (paragraph [016]).

Two flow sensors in the form of ultrasonic transducers 3 are mounted on a rack 5 of a flow pipe 7, with one situated upstream of the other (para. [026]). In operation, each ultrasonic transmits an ultrasonic beam 9 into the pipe 7. The beam 9 is reflected by the opposing pipewall and received by the other ultrasonic transmitter 3. (Para. [027]).

The two ultrasonic transducers 3 are connected to sensor electronics 10 for transforming signals of the ultrasonic transducers 3 into a measurement signal. The measurement signal in turn is supplied to a signal processing unit 11 for determining the flow (para. [028]). The flow velocity is directly proportional to the difference of the upstream and downstream transit times. A product of the cross-sectional area of the pipe and the flow velocity provides a measure of the volumetric flow. (Para. [029]).

The signal processing unit 11 can be set to produce a signal proportional to the flowrate or to the square of the flowrate. The setting is preferably stored in memory 17, which is accessible to the microprocessor 13. (Para [031]).

The signal processing unit 11 provides its signal to an output signal generator 18 for generating an output proportional to the signal of the signal processing unit 11 (para. [032]).

With the flowmeter according to the invention it is possible to generate an output

signal proportional to the square of the flow rate. This allows replacement in particular of older differential pressure flowmeters, showing this form of output signal, without extensive reprogramming of process control units. (Para [035]).

GROUND OF REJECTION TO BE REVIEWED ON APPEAL

(37 CFR 41.37(C)(1)(VI))

(1) Claims 1,3 and 6 are finally rejected under 35 USC 102(b) as anticipated by Vander Heyden; and

(2) Claims 2,4 and 8 are finally rejected under 35 USC 103(a) over Vander Heyden in view of Fletcher-Haynes.

ARGUMENTS

(37 CFR 41.37(c)(1)(vii))

(1)

When considering the amendment to claims 1 and 6 which have been submitted herewith by the Amendment under 37 CFR 1.116, it becomes necessary to determine only whether any of the references of record, and in particular the Vander Heyden, teach producing a signal proportional to the ***square of the flow rate***. We think not.

On page 2 of the Office Action of September 12, 2005, the examiner states that Vander Heyden "produce a signal proportional to the flow rate or the square of the flow rate," citing col. 13, lines 55 - 58. But col. 13, lines 55 - 58 only refers to a flow rate proportionality not a square of the flow rate proportionality. It is for this reason ,

perhaps, that on page 4 of the Office Action of September 12, 2005, the examiner also specifically stated that "The cited reference teaches '...a signal proportional to the flow rate'." This statement was made in reference to Vander Heyden. In view of this statement, and the statement found in col. 13, lines 55 - 58, both claims 1 and 6 have been amended to delete the reference to the flow rate and retain only the square of the flow rate.

(2)

This rejection is moot in view of the cancellation of claims 2, 3, 4 and 8 by the amendment under 37 CFR 1.116 filed concurrently herewith.

CONCLUSION

In view of the above, it is respectfully submitted that claims 1 and 6 should be allowed over the references of record.

Respectfully submitted
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Date: July 13, 2006

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APPENDIX OF CLAIMS
(37 CFR 41.37 (c)(1)(viii))

1. A flowmeter for replacing a differential flowmeter in a fluid flow system, comprising:

a primary flow sensor;

sensor electronics connected to said primary flow sensor for providing a measurement signal;

a signal processing unit connected to said sensor electronics for determining the flow, said signal processing unit being set to produce a signal proportional to the square of the flowrate; and

an output signal generator for generating an output signal proportional to the signal of said signal processing unit.

6. An ultrasonic flowmeter for measuring fluid flow and for replacing a differential flowmeter in a fluid flow system, comprising:

a primary flow sensor including a pair of ultrasonic transducers which are spaced apart in the direction of the fluid flow, each ultrasonic transducer emitting an ultrasonic beam into the fluid flow which is received by the other ultrasonic transducer;

sensor electronics connected to and receiving the signals generated by said ultrasonic transducers, and generating therefrom a measurement signal; and

a signal processing unit for receiving said measurement signal and determining the flow of the fluid by producing a signal proportional to the square of the flowrate of the fluid.

EVIDENCE APPENDIX

There is no evidence being relied upon which was submitted pursuant to 37 CFR 1.130, 1.131 or 1.132.

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RELATED PROCEEDINGS APPENDIX

There is no related proceeding being relied upon.

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